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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/784,498

Applicant(s)

GREBENEV, DMITRY

Examiner

Elmira Mehrmanesh

Art Unit

2113

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6-8, 10-19, 21 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 9, 20, 22-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____
- 7) ☐ Notes of Informal Patent Application
- 8) ☐ Paper No(s)/Mail Date 8/11/10

DETAILED ACTION

This action is in response to an amendment filed on June 30, 2010 for the application of Grebenev, for a "Kernel-level method of flagging problems in applications" filed February 23, 2004.

Information disclosed and listed on PTO 1449 has been considered.

Claims 1-30 are pending in the present application.

Claims 1, 3, 5, 7, 9-12, 15, and 17-21 have been amended.

Claims 22-30 have been added.

Claims 1, 2-6, 8-13, 15-17, 19-23, 25, 26, 29, and 30 are rejected under 35 USC § 112.

Claims 1, 4, 6-8, 10-19, and 21 are rejected under 35 USC § 102.

Claim 2 is rejected under 35 USC § 103.

Claims 3, 5, 9, 20, and 22-30 are objected to.

Claim Objections

Claim 7 is objected to because of the following informalities:

In claim 7, line 8 "system usage" should be changed to "system resource usage" and in line 13, "memory increases" should be changed to "memory usage increases".
Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 12, 15, 17, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to above claims, nowhere in the specification describe the limitation "a first application within the plurality of applications". This limitation contains new subject matter. Claims 2-6, 8-11, 13, 16, 20-23, 25, 26, 29, and 30 are rejected because the claims are dependent upon the above claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15, line 9 recites the limitation "the change". There is insufficient antecedent basis for this limitation in the claim. Claim 16 is rejected because it is dependent upon claim 15.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 6-8, 10-19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (U.S. Patent No. 5,684,945).

As per claim 1, Chen discloses a method of identifying problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

monitoring (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system resource usage of one or more running applications (col. 26, lines 31-35 and 49-52) and (col. 94, lines 10-12, wherein Chen discloses “... *process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc.*”) without modifying run-time environments of the one or more user applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52);

from the system resource usage, determining a memory usage pattern for each of a plurality of applications, each memory usage pattern indicating (Fig. 12C) for a selected one of the plurality of applications:

a first memory usage amount during a first time period (Fig. 12D, 2:45);

a second memory usage amount during a second time period (Fig. 12D, 2:48);

and

a change in the memory usage of the selected one of the plurality of applications from the first time period to a second time period (Fig. 12E, elements 249, 251), the

change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount (col. 72, lines 5-12, wherein Chen discloses *"Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space."*);

determining whether a change in the memory usage of a first application within the plurality of applications satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20); and

if the change in the memory usage of the first application satisfies the predetermined criteria, identifying the first application to a user (col. 16, lines 19-30) and (col. 97, lines 5-11).

As per claim 4, Chen discloses the system resource usage comprises memory usage of the one or more running applications (col. 26, lines 49-52).

As per claim 6, Chen discloses the system resource usage of the one or more running processes is monitored over a plurality of consecutive discrete time periods (col. 92, TABLE 66).

As per claim 7, Chen discloses a method of identifying problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

monitoring (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system resource usage of one or more running applications (col. 26, lines 31-35 and 49-52) and (col. 94, lines 10-12, wherein Chen discloses "... *process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc.*") without modifying run-time environments of the one or more applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52), wherein the system resource usage of the one or more running applications is monitored over a plurality of consecutive discrete time periods (Fig. 12E, elements 249, 251);

determining a system resource usage pattern of a first application, the system resource usage pattern indicating a change in the system usage of the first application from a first time period to a second time period, the system resource usage comprises an amount of memory usage for each of the one or more applications (Fig. 12E, elements 249, 251) and (col. 72, lines 5-12);

determining whether the change in the system resource usage of the first application satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20), the predetermined criteria is a limit on a number of memory increases allowed during the plurality of time periods (col. 92, lines 64-67 through col. 93, lines 1-6); and

if the change in the system resource usage of the first application satisfies the predetermined criteria, identifying the first application to a user (col. 16, lines 19-30) and (col. 97, lines 5-11).

As per claim 8, Chen discloses the system resource usage comprises an amount of memory usage for each of the one or more applications; (col. 94, lines 10-12, wherein Chen discloses "... *process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc.*"); and the predetermined criteria is a generally continuous increase in the amount of memory usage during the plurality of time periods (col. 92, lines 23-67 through col. 93, lines 6-10).

As per claim 10, Chen discloses identifying the first application to a user comprises saving an identifier of the first application in a reference file, and further comprising saving identifiers (col. 26, lines 38-63) of any other of the plurality of applications whose system usage pattern satisfies a predetermined criteria associated with one or more problems in the reference file (col. 94, lines 8-12, wherein Chen discloses "*The user can select a "sort" button to reorder the menu of process data by a specific category or process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc.*"); and the predetermined criteria is a generally continuous increase in the amount of memory usage during the plurality of time periods (col. 92, lines 23-67 through col. 93, lines 6-10).

As per claim 11, Chen discloses a computer automatically monitors the kernel level system resource usage of one or more running applications; determines whether a

memory usage pattern of a first application satisfies a predetermined criteria associated with one or more problems (col. 92, lines 56-60); and identifies the first application (col. 90, lines 63-65).

As per claim 12, Chen discloses a method of identifying memory problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

monitoring (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system memory usage of a plurality of running applications (col. 26, lines 31-35 and 49-52) and (col. 94, lines 8-12, wherein Chen discloses *"The user can select a "sort" button to reorder the menu of process data by a specific category or process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc."*) without modifying run-time environment of the applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52), the memory usage indicating for each of the plurality of applications (Fig. 12C):

a first memory usage amount during a first time period (Fig. 12D, 2:45);

a second memory usage amount during a second time period (Fig. 12D, 2:48);

and

producing an output comprising at least the memory usage (col. 9, lines 41-51) and (Fig. 12E, elements 249, 251); and

determining a change in the memory usage of a first application within the plurality of applications, the change in the memory usage indicating a change in the

memory usage of the first application from a first time period to a second time period (Fig. 12E, elements 249, 251), the change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount (col. 72, lines 5-12, wherein Chen discloses "*Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space.*");

determining whether the change in the memory usage of the first application satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20); and

if the change in the memory usage of the first application satisfies the predetermined criteria, identifying the first application to a user (col. 16, lines 19-30) and (col. 97, lines 5-11).

As per claim 13, Chen discloses the memory usage of the one or more running processes is monitored over a plurality of consecutive discrete time periods, and the predetermined criteria is a limit on a number of memory increases allowed during the plurality of time periods (col. 92, lines 23-67 through col. 93, lines 6-10).

As per claim 14, Chen discloses a method of identifying memory problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

monitoring (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system memory usage of one or more running applications (col. 26, lines

31-35 and 49-52) and (col. 94, lines 8-12, wherein Chen discloses *"The user can select a "sort" button to reorder the menu of process data by a specific category or process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc."*) without modifying run-time environments of the one or more applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52);

producing an output comprising at least the memory usage of one or more applications (col. 9, lines 41-51) and (Fig. 12E, elements 249, 251);

determining a memory usage pattern of a first application (col. 87, lines 3-12), the memory usage pattern indicating a change (col. 92, lines 25-34) in the memory usage of the first application from a first time period to a second time period (col. 15, lines 35-40) and (col. 72, lines 5-12, wherein Chen discloses *"Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space."*);

determine whether the change in the memory usage of the first application satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20); and

if the change in the memory usage of the first application satisfies the predetermined criteria, identify the first application (col. 16, lines 19-30) and (col. 97, lines 5-11) by saving an identifier of the first application in a reference file (col. 88, lines 5-18).

As per claim 15, Chen discloses a method of identifying memory problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

monitoring (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system memory usage of a plurality of running applications (col. 26, lines 31-35 and 49-52) and (col. 94, lines 8-12, wherein Chen discloses *"The user can select a "sort" button to reorder the menu of process data by a specific category or process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc."*) without modifying run-time environments of the running applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52, the memory usage indicating for each of the plurality of applications (Fig. 12C):

a first memory usage amount during a first time period (Fig. 12D, 2:45);

a second memory usage amount during a second time period (Fig. 12D, 2:48);

determining a memory usage pattern of a first application within the plurality of applications, the change in the memory usage indicating a change in the memory usage of the first application from a first time period to a second time period (Fig. 12E, elements 249, 251), the change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount (col. 72, lines 5-12, wherein Chen discloses *"Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space."*);

determining whether the change in the memory usage of the first application satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20); and

if the change in the memory usage of the first application satisfies the predetermined criteria, identifying the first application to a user (col. 16, lines 19-30) and (col. 97, lines 5-11) the first running application without identifying the one or more running applications whose memory usage patterns do not satisfy the predetermined criteria (col. 87, lines 53-56) associated with one or more problems (col. 92, lines 56-60) (col. 85, lines 49-60) and (col. 87, lines 15-20).

As per claim 16, Chen discloses the monitored memory usage comprises at least a stack memory, data memory, and text memory (col. 26, lines 49-63).

As per claim 17, Chen discloses a method of identifying memory problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

collecting system resource usage (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system memory usage of one or more running processes (col. 26, lines 31-35 and 49-52) belonging to one or more applications (col. 94, lines 8-12, wherein Chen discloses *"The user can select a "sort" button to reorder the menu of process data by a specific category or process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc."*) without modifying run-time environments of

the one or more user running applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52);

from the system resource usage, determining a memory usage pattern of each of a plurality of applications, each memory usage pattern indicating (Fig. 12C) for a selected one of the plurality of applications:

a first memory usage amount during a first time period (Fig. 12D, 2:45);

a second memory usage amount during a second time period (Fig. 12D, 2:48);

and

a change in the memory usage of the selected one of the plurality of applications from the first time period to the second time period (Fig. 12E, elements 249, 251), the change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount (col. 72, lines 5-12, wherein Chen discloses *"Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space."*);

determining whether a change in the memory usage of a first application within the plurality of applications satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20); and

if the change in the memory usage of the first application satisfies the predetermined criteria, identifying the first application to a user (col. 16, lines 19-30) and (col. 97, lines 5-11).

As per claim 18, Chen discloses a system for identifying problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

a data collection module (col. 69, line 35) operable to retrieve information about a plurality of running user applications application at a kernel level (col. 90, lines 63-64), the information comprising:

a first memory usage amount during a first time period (Fig. 12D, 2:45);

a second memory usage amount during a second time period (Fig. 12D, 2:48);

and

a change in the memory usage of the selected one of the plurality of running user applications from the first time period to the second time period (Fig. 12E, elements 249, 251), the change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount (col. 72, lines 5-12, wherein Chen discloses *"Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space."*); and

a data analysis module (col. 86, lines 66-67 through col. 87, lines 1-15) operable to:

determine abnormal system usage pattern in the information based on difference between the first memory usage amount and the second memory usage amount (col. 86, lines 1-18) and (col. 87, lines 3-18); and

identify a first user application associated with the abnormal usage pattern (col. 16, lines 19-30) and (col. 97, lines 5-11) that satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20).

As per claim 19, Chen discloses a program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps of identifying problems in applications (Fig. 1) and (col. 22, lines 42-48), comprising:

monitoring (col. 6, lines 61-63 and Fig. 1, element 90, *performance tool*) at a kernel level system resource usage of one or more running applications (col. 26, lines 31-35 and 49-52) and (col. 94, lines 8-12, wherein Chen discloses "*The user can select a "sort" button to reorder the menu of process data by a specific category or process parameter, e.g., process ID (PID), process name, process priority, userid of the process owner, process memory utilization, CPU utilization, page faults, etc.*") without modifying run-time environments of the one or more applications (col. 21, lines 65-69 through col. 22, lines 1-2 and 42-52);

from the system resource usage, determining a memory usage pattern for each of a plurality of applications, each memory usage pattern indicating (Fig. 12C) for a selected one of the plurality of applications:

a first memory usage amount during a first time period (Fig. 12D, 2:45);

a second memory usage amount during a second time period (Fig. 12D, 2:48);

and

a change in the memory usage of the selected one of the plurality of applications from the first time period to the second time period (Fig. 12E, elements 249, 251), the change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount (col. 72, lines 5-12, wherein Chen discloses *"Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space."*);

determining whether a change in the memory usage of a first application within the plurality of applications satisfies a predetermined criteria associated with one or more problems (col. 85, lines 49-60) and (col. 87, lines 15-20); and

if the change in the memory usage of the first application satisfies the predetermined criteria, identifying the first application to a user (col. 16, lines 19-30) and (col. 97, lines 5-11).

As per claim, 21 Chen discloses comparing the memory usage for the first application against the predetermined criteria (col. 94, lines 8-12); and

selecting the first application from the one or more running applications if the memory usage pattern of the first application satisfies the predetermined criteria (col. 16, lines 19-23), (col. 87, lines 53-56), and (col. 92, lines 56-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent No. 5,684,945) in view of Matsumoto (U.S. Patent No. 5,835,765).

As per claim 2, Chen discloses detecting a "runaway" process (col. 86, lines 1-4). However Chen fails to explicitly disclose a predetermined limit on the number of processes that each of the one or more user applications may spawn.

Matsumoto teaches:

the system resource usage comprises a number of the processes that each of the one or more user applications have spawned and the predetermined criteria comprises exceeding a predetermined limit on the number of processes that each of the one or more user applications may spawn (col. 14, lines 1-11).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the system of executing plural application programs of Matsumoto in combination with the performance monitoring system of Chen to enhance the system performance. One of ordinary skill in the art at the time of the invention would have been motivated to make the combination because both inventions disclose monitoring system resource usage (Chen, col. 90, lines 59-65) and (Matsumoto, col. 16, lines 20-49).

Allowable Subject Matter

Claims 3, 5, 9, 20, and 22-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed June 30, 2010 with respect to claims 1, 7, 12, 14, 15, and 17-19 have been fully considered but they are not persuasive.

As per claims 1, 12, 14, 15, and 17-19 applicants argue that Chen fails to teach the claimed limitation "determining a memory usage pattern for each of a plurality of applications."

The Examiner respectfully disagrees and would like to point out to col. 87, lines 3-12, wherein Chen discloses, "*As observations become more precise, automatic data filters can be used to automatically correlate and cross correlate data patterns to help automate the data analysis process. The data filter takes specific system*

*performance data at each sample point and runs it through a correlation procedure to see if the data values **can be correlated to some known pathological pattern**. The filtering process may need to sample the data over time to match a data trend in addition to individual sampled values."*

Further note col. 72, lines 5-12 wherein Chen discloses, "*Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space.*"

Additionally Chen discloses monitoring memory usage by individual processes on multiple network nodes (col. 26, lines 50-64).

Monitoring memory usage by individual processes and providing delta (change) in the value between observations and correlating performance data to patterns as disclosed by Chen reads on the above claimed limitation.

Applicants further argue that Chen fails to disclose "each memory usage pattern indicating for a selected one of the plurality of applications: a first memory usage amount during a first time period; a second memory usage amount during a second time period; and a change in the memory usage of the selected one of the plurality of applications from the first time period to a second time period, the change in the memory usage equaling the difference between the first memory usage amount and the second memory usage amount."

The Examiner respectfully disagrees and would like to point out to col. 22, lines 53-57, wherein Chen discloses, "*A recording graph/instrument **shows statistics for a system resource over a period of time**, as shown at 249 in FIG. 12d. Recording*

graphs have a time scale with the current time to the right. The values plotted are moved to the left as new readings are received."

Further note col. 72, lines 5-12, wherein Chen discloses, "*Normally, data consumers will show the **delta (change) in the value between observations.** SiQuantity Value represents a level, **such as memory used** or available disk space."*

The change (*i.e. difference*) in value of observed memory usage over a period of time (*i.e. first and second memory usage amount during a first and second time period*) as disclosed by Chen reads on the above limitation as recited in claims 1, 12, 14, 15, and 17-19.

As per claim 7, applicants argue that Chen fails to teach the claimed limitations of "determining a memory usage pattern for each of a plurality of applications" and "the predetermined criteria is a limit on a number of memory increases allowed during the plurality of time periods."

The Examiner respectfully disagrees and would like to point out to col. 87, lines 3-12, wherein Chen discloses, "*As observations become more precise, automatic data filters can be used to automatically **correlate and cross correlate data patterns** to help automate the data analysis process. The data filter takes specific system performance data at each sample point and runs it through a correlation procedure to see if the data values **can be correlated to some known pathological pattern.** The filtering process may need to sample the data over time to match a data trend in addition to individual sampled values."*

Further note col. 72, lines 5-12 wherein Chen discloses, "*Normally, data consumers will show the delta (change) in the value between observations. SiQuantity Value represents a level, such as memory used or available disk space.*" Additionally Chen discloses monitoring memory usage by individual processes on multiple network nodes (col. 26, lines 50-64).

Note col. 92, lines 64-67 wherein Chen discloses, "*an alarm to send an except_rec to interested Data Consumer programs whenever the average busy percent for the disks exceeds 50 for more than 5 seconds.*"

Thus monitoring memory usage by individual processes and providing change in the value between observations and correlating performance data to patterns and defining an alarm for when the average busy percent for the disks exceeds 50 for more than 5 seconds, as disclosed by Chen reads on the above claimed limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1 .136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1 .136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmira Mehmanesh whose telephone number is (571) 272-5531. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Robert W. Beausoliel, Jr./
Supervisory Patent Examiner, Art Unit 2113